

Aneurysm closure device assembly

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PATENT NUMBER- 00820726/EP-B1**PATENT APPLICATION NUMBER**- 97305516.3**DATE FILED**- 1997-07-23**PUBLICATION DATE**- 2003-09-10**PATENT PRIORITY INFO**- 690183, 1996-07-26, US**ATTORNEY, AGENT, OR FIRM**- Price, Nigel John King, J.A. KEMP & CO. 14 South Square Gray's Inn, London WC1R 5JJ, GB**INTERNATIONAL PATENT CLASS**- A61B01712; A61F00206**PUBLICATION**- 1998-01-28; 1998-04-15; 2003-09-10, B1, Granted patent**FILING LANGUAGE**- ENG**PROCEDURE LANGUAGE**- ENG**LANGUAGE**- ENG

This is an artificial occlusion kit for implanting and retaining an artificial occlusion device in a body space adjacent to and extending from a body lumen in a mammal. The includes at least one occlusion device and a retaining device for blocking the migration of the occlusion device out of the occlusion site. The retaining device is radially expandable at a retaining site adjacent the body space to be occluded to a diameter that is sufficient to engage the body lumen wall at the retaining site and form a barrier across the entrance zone of the body space to be occluded. The expanded retaining device also forms a lumen for flow through body lumen at the retaining site. At least one semi-penetrable space may also be provided in the retaining device, allowing introduction of occlusion devices into the body space to be occluded, but preventing subsequent migration of the occlusion devices out of the body space. This semi-penetrable space may also be distensible to allow for delivery of occlusion devices therethrough. An introducer wire or a tapered-tip delivery catheter may be used to distend the distensible space and deliver the

occlusion devices. The retaining device structure may further include a radiopaque metal wire wound into a primary helix over an inner core member made of a superelastic alloy of nickel and titanium. An implantable medical device assembly is also provided, having the structure described for the retaining device of the novel artificial occlusion kit, and which is attached to an elongate pusher via a sacrificial link that is electrolytically dissolvable.

EXEMPLARY CLAIMS- An artificial occlusion kit for implanting and retaining an artificial occlusion device (12) in a body space to be occluded adjacent to and extending from a body lumen in a mammal, comprising: at least one occlusion device (12, 62, 108, 222, 224) adapted for filling at least a portion of the body space; and: a retaining device (19, 30, 38, 43, 46, 69, 119, 200, 220) adapted to be delivered and implanted at a retaining site in the body lumen adjacent to the body space, said retaining device having two opposite ends and forming a first shape with a first outer diameter, said retaining device (19, 30, 38, 43, 46, 69, 119, 200, 220) being expandable to a second shape having a second outer diameter larger than said first outer diameter and sufficient to engage a body lumen wall at the retaining site such that a barrier is formed against migration of said at least one occlusion device (12, 62, 109, 222, 224) out of the body space and into the body lumen, said second shape also forming a lumen (30) along a longitudinal axis sufficient to allow flow of fluids therethrough.; The artificial occlusion kit of claim 1, where said retaining device (19, 30, 38, 43, 46, 69, 119, 200, 220) forms said first shape when radially constrained for percutaneous delivery to the retaining site, and forms said second shape upon release from said radial constraint at the retaining site.; The artificial occlusion kit of claim 2, further comprising: a delivery catheter (20) having a proximal delivery catheter end with a proximal delivery port, an opposite distal delivery catheter end portion with a distal delivery port (23), and a delivery lumen (22) extending between said delivery ports and having a delivery lumen inner diameter less than second outer diameter.; wherein said retaining device (19, 30, 38, 43, 46, 69, 119, 200, 220) is slideably disposable under radial constraint within said delivery lumen (22).

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